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MEMORANDUM

30 November 1949

TO : Assistant Director, [redacted]

FROM : Chief, Machine Methods Division
Chief, CIA Library, OCD

SUBJECT: Comments on Management's Proposals Relating to
Abstracting and Coding of Intelligence Information

The memorandum of 16 September 1949 prepared by the Management Staff on the problem of abstracting and coding techniques used in CIA has been circulated for comment among the key personnel of the CIA Library and the Machine Methods Division. The results of their study and observations are embodied in this report. Three major changes in current operations were proposed by the Management Staff:

1. Decentralization of library classification functions, both operational and administrative, to substantive Units of ORE and OSI.
2. Incorporation of IR and ER dossier files into the Library.
3. Centralization of OCD machine functions, both operational and administrative, in one machine operations Division.

There follows below a discussion of each proposed change in system.

PROPOSED CHANGE NO. 1 - DECENTRALIZATION OF LIBRARY CLASSIFICATION FUNCTIONS, BOTH OPERATIONAL AND ADMINISTRATIVE, TO SUBSTANTIVE UNITS OF ORE AND OSI.

Elimination of the professional approach to subject classification and decentralization of classification functions are considered dangerous to CIA objectives. Professional library classification as a method of organizing information for determining exhaustively all material related to a given subject is a unique and powerful tool. Coupled with a machine indexing system it is unexcelled as an unusual research medium for speedy and accurate selection of information. The quality of any machine's final product is dependent wholly on the quality of the classification.

Once a classification system has been adopted, it is necessary to establish special policies which are to govern its application. The meaning of terms and headings which appear in the system must be consistent and invariable. The professional library classifier thinks in terms of order and system, for this is his primary responsibility. He is alert to gaps and overcrowded classes in the system, and is able to recognize the weaknesses and strength of the system for purposes of correction and improvement. Failure to continue professional library classification and accompanying centralized control is almost certain to result in reduced user satisfaction, and may ultimately require costly reclassification.

In executing its function and responsibilities to the Agency, the Library has been engaged in the classification of specific subject and area information contained in the intelligence documents received by OCD. By emphasizing classification functions in the Library, OCD has established complete finding control over the intelligence materials received by the Agency prior simultaneously to the initial internal distribution to substantive offices.

With Through such control over its documentary resources the Agency can make available to its research personnel information on documents received either by subject and area or by source and date. The system employed combines into one operation the receipt, preparation of the source record, dissemination, classification, and machine recording of the documents received in OCD. Experience has demonstrated repeatedly in every research field similar to this that decentralized procedures for bibliographic control have failed to maintain the standards required for economical use, and have resulted in an index tool of drastically limited value, coverage, and scope.

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It is not disputed that the research analysts in CIA may be educationally qualified to perform classification duties. Their primary responsibility, however, is the evaluation and interpretation of foreign developments reported in the vast number of incoming publications. In addition to their daily, weekly, and monthly summaries, these researchers are called upon to prepare special reports and often work against pressing deadlines. Under such pressure it is fiction to believe that the researchers will be able to devote sufficient time to the thorough examination of incoming documents and still perform adequately the indexing and abstracting functions which Management suggests be assigned to them. The researcher's background, training, and experience suit him ably for his analytical work; increasing his responsibilities in a field foreign to him would certainly result in a lack of proper emphasis on all aspects of his job. Attempts to assign classification functions to the researcher would have the following negative results:

a. Loss of a Comprehensive Approach to Intelligence Information: Basically, the researcher interprets and evaluates from the specialist's point of view only. It follows then that the index file of intelligence materials would reflect only those items of immediate interest to the particular researcher submitting material for incorporation into the system. His interpretation and application of the classification scheme could not be supervised adequately, if at all. Similarly, each item would receive the personal emphasis of that researcher. It is questionable how far his abstracts and classification would go in reflecting items of interest in the same document in fields other than his own. (The [redacted] in ORE makes no pretense at abstracting every document it handles but relies on the Library for general coverage of all materials.) As a result, no comprehensive

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approach to the intelligence resources of the Agency would be available to other researchers of CIA, including OO, OPC and OSO, or for that matter, to any of the IAC Agencies. In addition, increased reliance would have to be placed upon the detailed dissemination of the limited number of copies of incoming documents in order to ensure that all researchers are informed of the total flow of information in their particular field, a time-consuming process.

The inconsistencies of the personal classification program of each researcher, multiplied by those of other researchers would soon provide an index file unworthy of the name. To answer such routine questions as what proportion of incoming documents have been indexed or how many remained to be indexed - would be extremely difficult; involving the use of highly complex and costly control procedures. The resulting gaps in the organization of our intelligence information would nullify the effectiveness of CIA intelligence production and service and be a source of considerable embarrassment to all concerned. A piecemeal approach to foreign intelligence information would serve no constructive purpose to an intelligence coordinating agency such as ours. (At present the library classification program provides an invaluable index tool that could not be duplicated by a decentralized approach. Any researcher in CIA, or in the IAC Agencies, now has access to complete up-to-date information on any subject in any area within three or four days after a document arrives in the Agency, regardless of the ~~sub-~~sequent routing to substantive operational units.)

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b. Loss of Control and Backlogging of Data for the Index File: Under considerable pressure to evaluate speedily and effectively, the researcher would be very slow in forwarding abstracted and classified information to the index file. With bibliographic control, subject and area wise, a secondary function, it is not difficult to visualize the backlogging of materials to be classified because of more pressing business. (The Library now provides complete subject and area control over incoming intelligence documents within three or four days after receipt by OCD.) Not only would the unprocessed documents pile up in the researchers files, but those copies destined for the Library would be unavailable to other interested personnel for extensive periods and their location would entail a long and arduous search to satisfy a specific request.

c. Deterioration of Classification Scheme Standards: The Library has always recognized the importance of enlisting the advice of subject and area specialists in the development of the Intelligence Subject Classification Scheme, and it has repeatedly taken advantage of such assistance. It can be said that the ISC,

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Classification Scheme

as now constituted is primarily the product of the joint ORE-OSI Library efforts, (see Tab A), with the Library acting as coordinator, moderator, editor, and publisher. Further, the first edition of the ISC was prepared after consultation with representatives of other intelligence agencies and after detailed review of the filing systems employed by them. It therefore combines the most useful features of existing schemes plus the proper arrangement of intelligence subjects in accordance with the desires and requirements of the users. From a professional point of view, the system is flexible and permits expansion when required. Additions and revisions have, in the past, been initiated by several interested offices in CIA.

Generally speaking, the classification scheme can be made to be as specific as the researcher desires and this has been done, for example, as in the case of the Medical Section for OSI. It is not feasible, economical, or practical to code every subject from every minute detail, for there is a point of diminishing returns beyond which the labor of input (coding) exceeds the value of output (the end use by the researcher). Any method for the organization of information requires the researcher to perform some search of a small segment of the total information available.

In view of the differences of opinion and interpretation existing among the Divisions of ORE and OSI, the Library has served as a catalyst to produce results and mutual understanding. Without this coordinated Library function the classification system would certainly deteriorate to a jumble of words and numbers. ✓

d. Adverse Effects on Application of Machine Methods: The most important factor in the successful operation of a central index file of intelligence information is the guarantee that index cards will be in the file as soon as possible after the document is received in the Agency. Such timeliness of indexing is particularly important in CIA due to the nature of its objectives; it can be made certain only through strict control procedures of incoming materials. This theory has been proven true when applied to the present procedure. However, it is difficult to see how it could be similarly applied to the proposed system. ✓

- (1) To ensure that all intelligence information of value in all the documents received is processed as expeditiously as possible, all documents are placed under control upon their receipt in CIA and are retained under control through all processing operations including the filing of the index cards in the Intello-fax files.

(2) From the standpoint of machine operation procedures the system currently employed between the Library and Machine Methods Division is by far the simplest possible. Under the proposed procedure it is certain that some type of control of coding and transmittal operations would have to be established regardless of difficulty or cost. The complicated control and processing procedures which would be required under the proposed plan would be extremely difficult to operate. It is most unlikely that the same efficiency and productivity could be obtained, and it is certain that the operating procedures would not be as economical as under the present plan.

(3) The inherent dangers of a system involving individual document control which cuts across Office lines cannot be emphasized too strongly. A detailed explanation of the highly complicated technical and procedural problems arising from the proposed system are included as Tab B.

PROPOSED CHANGE NO. 2 - INCORPORATION OF IR AND BR DOSSIER FILES INTO THE LIBRARY.

The Library and the Machine Methods Division do not believe that this proposal is feasible. Management states in Paragraph 5, Section c of its memorandum: "All OCD information holdings, including biographic and industrial, be incorporated into the Library and servicing be accomplished by standard library procedures". Standard library procedures cannot be utilized to service such highly specialized collections. The Staff in each of the OCD Registers has been carefully recruited with special requirements, pertinent to the respective Register, in mind in all appointments. The personnel so recruited are not librarians or library clerks. To implement Management's proposal would, therefore, require merely a paper transfer of certain Register personnel to the present Library table of organization. ✓

The need for maintaining separate files of industrial, biographic, as well as graphic intelligence was brought sharply into focus during the war. Scattering the files of the Registers throughout the Library would result in a loss of effective special servicing of this material and would defeat the entire central reference concept. The Library will always support any proposal designed to improve its services, but it also supports the rights of other Agency components to equal service. (3)

[redacted] meaning, he tells me, is that the Library does not wish to take on any job which it considers is now being performed better than it could be done within the Library's central system. [redacted]

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PROPOSED CHANGE NO. 3 - CENTRALIZATION OF OCD MACHINE FUNCTIONS, BOTH OPERATIONAL AND ADMINISTRATIVE IN ONE MACHINE OPERATIONS DIVISION.

a. Centralized tabulating machine operations are feasible where the processing operations and results are routine and standardized. In a centralized machine operation, it is common practice to group the operations according to the type of work performed such as: payroll, billing, accounts receivable, accounts payable group, etc. Each group carries out assigned functions independently and is held responsible for the accuracy of its work and for meeting reporting schedules.

b. The establishment of a central machine division under the present organization and mission of OCD has been the subject of periodic debate since early 1947. It has always been the contention of the Machine Methods Division and the OCD Register Chiefs that a centralized machine operation would not be advantageous because:

(1) The majority of the machine work except key punching is comprised of special studies and analyses which require special instructions to the machine operators to produce the desired results. These instructions are as diverse as they are ~~many~~ in number. The special instructions are prepared by the tabulation machine planners in each Register.

(2) The tabulation machine planners work closely with the machine personnel of their Register both in planning new work and in the execution of special job instructions.

(3) Requests upon the Register to produce intelligence information from their files must be satisfied as expeditiously as possible and speedy processing can be best obtained by orders and instructions issued directly to their machine operators.

c. The above reasons for not establishing a central machine operations division are believed to be sound. The procedure has been followed for approximately three years, no serious difficulties in allocating machine time have been encountered, cooperation between the machine personnel of the several Registers has been noteworthy, and economy in operation has been realized.

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REPORT OF THE MACHINE METHODS DIVISION ON THE PROPOSED
PLAN TO DECENTRALIZE CODING OF DOCUMENTARY INTELLIGENCE MATERIAL

A. PURPOSE OF REPORT

The purpose of this report is to analyze the control, clerical, and machine processing procedures now in effect and compare them with the procedures which would be required if the responsibility for coding and abstracting of documentary material were shifted from the CIA Library to various divisions and/or branches of ORE and OSI as suggested in the memorandum, dated 16 September, 1949, from the Management Officer, CIA.

The advantages and disadvantages of the present operating procedures which include a centralized coding operation and of the proposed operating procedures which would include decentralized coding operation, will be presented realistically and concisely so that a fair decision can be reached as to which procedure would best serve the interests of CIA.

B. COMPARISON OF PRESENT AND PROPOSED PROCEDURES.

1. Importance of Control Procedures

The most important factor in the successful operation of a central index file of intelligence information is the guarantee that index cards will be in the file as soon as possible after the document is received in the Agency. Such timeliness of indexing is particularly important in CIA due to the nature of its objectives; it can be made certain only through strict control procedures over incoming materials. This theory has been proven true when applied to the present procedure. However, it is difficult to see how it could be similarly applied to the proposed system.

To assure that all intelligence information of value in all the documents received is processed as expeditiously as possible, documents are placed under control upon their receipt in CIA and are retained under control through every processing operation, including the filing of the index cards in the Intello-fax files.

2. Present Control Procedure from Receipt thru Distribution of Documents.

a. A brief outline of the procedure now in effect and the results obtained through its operation follow:

(1) Upon receipt, documents are sorted into three groups: CIA produced, IAC produced, and non-IAC produced material.

(2) IAC and non-IAC documents are assigned a CIA control number, and the groups are then broken into batches of approximately 20 to 30 documents. A batch control sheet listing the control numbers of the documents included in the batch is prepared and assigned a batch control number. The batch control sheet and its documents are placed in an envelope folder on the cover of which is entered the batch control number and the sequence in which the operations are to be performed. The batch is then forwarded to the first operation group which, upon completion of its work, forwards the batch to the next operation group, and so on.

(3) A record of the batches placed in operation each day is maintained by the Batch Control Clerk and is made available daily to each processing division or branch.

(4) CIA produced material is controlled in the same manner except that the CIA report number is used as the control number.

b. The proper operation of the above procedure results in the following advantages:

(1) Since each operating unit is informed of the number of batches put into process each day, it can forecast its daily man-hour needs to process each day's workload.

(2) Once a document is under control, index cards must be completely processed and placed in the Intello-fax files unless the contents of the document have been determined to be of no intelligence value. Where the determination has been made by the readers, the multilith mats are marked "nodec." The control number for that document on the batch control sheet is also marked "nodec," and only control slips are reproduced. Where the determination has been made after the reading operation, the document number on the control sheet is marked "nodec," and the index cards previously reproduced for that particular document are destroyed by the Key Punch Operators.

(3) To assure continuous and prompt processing, the procedure is based on the premise that each division, branch, or section will daily process one day's workload and thereby maintain a constant flow of work through each operation. Each operating section reports its production each day. These reports are reviewed daily by the Executive Assistant Director, OCD; and when it appears that an operating section is falling behind schedule, steps are taken immediately to determine the cause and take corrective action. Where the operation which is behind schedule is not under OCD control, the EAD, OCD, confers with the responsible persons in the office where the operation is being performed and requests that remedial action be taken.

3. Present Control Procedure - Coding thru Indexing

a. Outline of Control Procedure:

Machin Metrics Division

(1) The MMD Control Clerk is notified daily by the Library Batch Control Clerk of the batch numbers assigned.

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(2) The batch numbers are entered in a control ledger by the MMD Control Clerk who enters against each batch number the date on which the batch control slips and index cards were reproduced by the Services sub-unit.

(3) As the batches of coded control slips are received from the Library analysts, they are reviewed to determine that all control slips are accounted for within each batch and that each control slip has been completely coded. Batches which are in order are cleared for the key punch operation by noting the date forwarded to the Key Punch Supervisor.

(4) If there are discrepancies, either in number of control slips received or in coding, they are immediately brought to the attention of the analyst supervisor for correction. In the case a correction requires the procurement of a document, the item in error is removed from the batch and the new or corrected control slip is included in a subsequent batch. This procedure permits the original batch to be cleared for key punching.

(5) The key punching and verifying operations are performed under batch control. When all operations are completed, the batch control sheet is returned to the Control Clerk, and the control is cleared.

(6) Machine processing is performed on a daily workload basis. When a request is being filled, all cards in machine processing are searched as well as the index.

b. Advantages of Procedure:

(1) The MMD Control Clerk checks the control record daily to determine if any batches are behind schedule, and the analyst supervisor is informed of, and requested to expedite, those batches which have been delayed. An average of 2.1 days is now required to distribute, code, and transmit coded batches to the Machine Methods Division.

(2) A document cannot unknowingly be "lost." Missing documents are searched for until they are found, and it is also known that the index is complete except for data contained in those documents which have not cleared the control. Since the procedure was made effective in October, 1948, only 35 documents were on the missing list as of 14 November 1949. Considering the number of documents which have been processed, this is a remarkably fine record. ✓

(3) The batch control facilitates operations in the Key Punch Section, since index cards to be key punched can be removed from the retention file and assigned to key punch operators in batches. The selection of batches is fast and accurate, and the "batch" is a convenient work unit.

4. Control Procedures for Proposed Plan

The Management Officer's memorandum does not indicate that any changes will be made in the present procedure covering the typing of bibliographic statements on multilith mats, reading documents for determining distribution of copies, the reproduction of control slips and index cards, and the attaching of control slips to their respective documents for distribution. Therefore, the present batch control procedure will remain intact through the distribution operations, and the advantages of that control as described in paragraph 2 b above will be retained.

From this point the control to ensure the expeditious return of all coded control slips for punching as described in paragraph 3 b above becomes difficult. As soon as the documents with control slips attached are distributed to the substantive CIA offices:

a. The batch control will be dissipated. The documents within a batch will be distributed to various branches within each substantive office, and

b. A control by individual document number will be required. It is important to bear in mind at this time that a batch contains between 20 and 30 documents. Control is now possible by batch. The work of maintaining an individual document control will be substantially increased. There are several procedures which could be established for individual document control; and if the proposed procedure is made effective, the various means of control can be given detailed consideration by OCD and the substantive offices.

c. Operation of control record will be more time consuming. It is now a relatively simple matter to spot batches which are not arriving for key punching within the allotted time, since there are not more than 40 new batches a day added to the control. To spot and clear 600 to 800 new documents daily will require an individual document control and more clerical time than is now expended.

d. Follow up to expedite delayed coding or to trace lost documents will be time consuming because:

(1) The coding is now performed by a group of trained classifiers whose only responsibility is coding. Because they are concentrating on one operation they become specialists and acquire speed in determining the proper codes to be applied.

(2) The coding operation, to a researcher, is a secondary function and probably one that he will not particularly like. He will never become as adept as the trained classifier. There may also be a tendency on his part to perform pressing research problems first and perform the coding when he has time or is "needled" to get the job done. In any case, the quality of the coding will suffer.

e. Several control points will have to be contacted. Each substantive office must determine in advance which of its divisions or branches will be responsible for coding and abstracting the documents received and establish its own control so that the MMD Control Clerk can contact one responsible person. Otherwise several division or branch chiefs will require contacting, depending upon the distribution of documents within the substantive office. The latter procedure would be more laborious and costly than the establishment of one control point in each office.

f. The responsibility for completing coding and abstracting operations on a daily workload basis crosses office lines. It is a fundamental law of efficient organization that difficulties are encountered when one office attempts to regulate or expedite the work performed by another office over which it has no administrative control. Based on experience with the ORE reading operation, it is believed that this one factor will create an uneven flow of work which will result in overtime in the machine operations or in the maintenance of a permanent staff sufficiently large to process peak loads. //V

5. Effects of Proposed Procedure on Machine Operations

a. Correction of Coding Errors: Under the present procedure, errors in coding found during the control and/or key punching operations are returned to the analyst supervisor for correction. Under the proposed procedure, coding errors would be returned to the substantive office in which the coding operation was performed. This office would then determine which of its branches performed the coding and forward the control slips to them for correction. The additional steps and personnel involved as compared to the present operation will require more time for correction of coding errors. ✓

b. Matching of Coded Control Slips and Unpunched Index Cards: Under present procedures, coded control slips are returned in batches. After the batches are cleared through control, they are forwarded to the Key Punch Section Supervisor as source documents for punching index cards. The index cards are retained in batch number groups, and the Key Punch Section Supervisor simply pulls the corresponding batches of index cards from the file and gives them together with their control slip batches to various key punch operators for punching. Each batch represents control slips for from 20 to 30 documents. The selection and pulling of batches is a rapid operation and is performed by the supervisor along with her other duties. Under the proposed procedure the control slips would not be returned in batches but individually. Each control slip returned could be from any one of the original batches. The index cards would be retained in batch groups as at present, and the following operation would be required in the Key Punch Section to assemble the work for the key punch operators:

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- (1) Sort control slips into batch number groups and arrange groups in batch number order.
- (2) Find index card batch group.
- (3) Read CIA document number or CIA control number on control slip, find and pull the corresponding card group or groups.
- (4) Arrange pulled cards and control slips in parallel sequence in two separate groups.

The pulled cards and control slips would then be assigned by the Key Punch Supervisor to key punch operators. There is in the above operation the possibility of error in pulling the index cards. Cards pulled in error and the control slips with no corresponding index cards would be returned to the Key Punch Supervisor. The erroneous cards would require normal refiling in their proper batch group and correct cards pulled for the control slips returned. Additional personnel would certainly be required.

c. Messenger Time: Under present procedures, coded control slips are transmitted between two points in "M" Building. Under the proposed plan the control slips would either be transmitted from various points within the substantive branches to their office control point and from that point to Machine Methods Division; or they would be routed from the various branch coding points directly to Machine Methods Division. Additional messenger time than is now used would be required to keep the work flowing.

6. Disadvantages of Controlling Decentralized Operations

The difficulties and disadvantages which are apparent in control required for the proposed procedure as compared to the present procedure are not peculiar to the job under consideration but are inherent in the problem of establishing an adequate control over decentralized operations performed at various scattered points. For this particular job, the problem is made more difficult because the responsibility for getting the job done is also scattered. It can be made to work, but it will be costly; the effort needed to meet production schedules will be tremendous. If it is decided to place the proposed plan into effect, it is certain that a control of the coding operations must be established regardless of difficulty or cost. To attempt to work without it would mean that we would have to accept whatever coding and abstracting is performed, whenever it is performed, and attempt to fill requests with whatever references happen to be in the index at the time.

7. Conclusions

a. In October, 1948, the present plan was made effective and was the result of the combined thinking of members of this Division, the Library, and the Management Office. It is streamlined, highly productive, efficient, and economical. (Management Office estimated a saving of approximately \$200,000.00 a year would be realized by the revised procedures now in effect.)

b. The control and processing procedures which would be required under the proposed plan would be extremely difficult to operate; it is unlikely that the same efficiency and productivity could be obtained; and it is certain that the operating procedures would not be as economical as under the present plan.

c. Therefore, it is strongly recommended that the present plan be retained and that ORE and OSI research personnel be advised and encouraged to furnish coded abstracts of all material regardless of its source which they believe should be included in the abstract files.